

MMWR

MORBIDITY AND MORTALITY WEEKLY REPORT

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Effectiveness in Disease and Injury Prevention

Counseling Practices of Primary-Care Physicians — North Carolina, 1991

Because 80% of the U.S. population visits a physician each year (1), physicians are an important source for health education. In particular, physicians have unique opportunities to influence and modify health-risk behaviors of their patients. During 1991, the North Carolina Department of Environment, Health, and Natural Resources (DEHNR), the University of North Carolina at Chapel Hill, and CDC conducted a survey of nonmilitary primary-care physicians practicing in North Carolina regarding counseling and referral practices. This report summarizes results of this survey, including estimates of the proportion of primary-care physicians who counsel and/or refer for treatment patients who smoke, abuse drugs or alcohol, or have diet- or nutrition-related problems.

A primary-care physician was defined as a physician specializing in general practice, family practice, internal medicine, or obstetrics and/or gynecology (OB/GYN) who graduated from medical school in 1990 or earlier. A stratified sample of 1200 physicians in the four specialty groups in North Carolina was selected using a national sampling frame; 514 eligible physicians responded. The Council on American Survey Research Organizations' (2) response rate (58.6%) was used to account for unknown eligibility status of nonresponding physicians. Sample weights were adjusted to compensate for substantial differences in response rates. Software for Survey Data Analysis (SUDAAN) (3) was used to provide weighted estimates for the population of primary-care physicians practicing in North Carolina.

Physicians were asked about their attitudes and beliefs regarding counseling. In addition, physicians were asked what percentage of their patients who they believe smoke, abuse drugs or alcohol, or have diet/nutrition problems they counseled and/or referred for treatment. Physicians who reported counseling and/or referring more than 80% of these patients were classified as "routinely counseling and/or referring at-risk patients."

Of the 514 respondents, 90% were white, 87% were male, and 72% were board certified. The mean age of respondents was 46.8 years (range: 26–87 years) and the mean percentage of professional time spent providing patient care was 86% (range: 10%–100%).

Primary-Care Physicians — Continued

Most (96%) physicians agreed that primary-care physicians should assist asymptomatic patients in reducing behavioral risk factors. Routine counseling and/or referral was reported by 51.3% of physicians for patients who smoke, 50.0% for patients who abuse drugs, 34.5% for patients who abuse alcohol, and 18.9% for patients with diet/nutrition problems (Table 1).

White physicians, female physicians, and physicians aged 26–44 years generally reported higher counseling and/or referral rates than other subgroups. However,

TABLE 1. Percentage of primary-care physicians who routinely* counseled at-risk patients, by physician characteristics — North Carolina, 1991

| Characteristic | No. [†] | Poor diet | | Alcohol abuse | | Drug abuse | | Cigarette smoking | |
|--------------------------------|------------------|-------------|----------------------|---------------|----------------|-------------|----------------|-------------------|----------------|
| | | % | (95%CI) [‡] | % | (95% CI) | % | (95% CI) | % | (95% CI) |
| Race | | | | | | | | | |
| White | 462 | 19.1 | (± 3.5) | 34.5 | (± 4.5) | 50.2 | (± 4.7) | 52.3 | (± 4.6) |
| Other than white | 51 | 14.6 | (± 9.4) | 32.1 | (± 14.1) | 47.2 | (± 15.5) | 39.0 | (± 14.6) |
| Sex | | | | | | | | | |
| Female | 69 | 24.5 | (± 9.9) | 33.6 | (± 11.2) | 52.8 | (± 11.7) | 60.1 | (± 11.6) |
| Male | 444 | 18.1 | (± 3.6) | 34.7 | (± 4.6) | 49.7 | (± 4.8) | 50.0 | (± 4.8) |
| Age (yrs) | | | | | | | | | |
| 26–44 | 263 | 21.4 | (± 4.7) | 36.3 | (± 5.8) | 54.1 | (± 5.9) | 54.7 | (± 6.0) |
| 45–87 | 248 | 14.9 | (± 4.5) | 31.9 | (± 6.3) | 44.3 | (± 6.7) | 45.6 | (± 6.7) |
| Board certified | | | | | | | | | |
| Yes | 364 | 18.3 | (± 3.8) | 34.1 | (± 4.9) | 50.3 | (± 5.1) | 51.8 | (± 5.1) |
| No | 144 | 21.4 | (± 7.3) | 34.9 | (± 8.4) | 49.0 | (± 9.1) | 51.2 | (± 9.1) |
| Practice setting | | | | | | | | | |
| Solo | 159 | 23.3 | (± 7.0) | 33.1 | (± 7.9) | 48.2 | (± 8.4) | 51.4 | (± 8.4) |
| Group | 238 | 15.9 | (± 4.6) | 34.9 | (± 6.3) | 51.1 | (± 6.4) | 55.2 | (± 6.3) |
| Other | 116 | 20.5 | (± 6.8) | 35.4 | (± 8.7) | 50.1 | (± 9.1) | 43.9 | (± 9.0) |
| Specialty | | | | | | | | | |
| Internal medicine | 80 | 18.1 | (± 8.7) | 25.0 | (± 10.4) | 44.5 | (± 13.4) | 28.9 | (± 12.2) |
| General practice | 103 | 17.5 | (± 6.2) | 37.4 | (± 8.6) | 49.5 | (± 8.8) | 55.7 | (± 8.7) |
| Family practice | 218 | 22.0 | (± 5.5) | 30.9 | (± 5.9) | 52.6 | (± 5.9) | 52.8 | (± 5.9) |
| OB/GYN | 113 | 16.6 | (± 6.5) | 38.7 | (± 9.2) | 48.5 | (± 9.3) | 48.6 | (± 9.3) |
| Medical school location | | | | | | | | | |
| North Carolina | 194 | 16.6 | (± 5.1) | 31.6 | (± 7.1) | 49.6 | (± 7.5) | 51.5 | (± 7.3) |
| Other southern school | 146 | 20.7 | (± 6.7) | 39.2 | (± 8.1) | 54.8 | (± 8.1) | 52.7 | (± 8.2) |
| Midwest | 62 | 19.1 | (± 9.4) | 46.3 | (± 12.7) | 50.5 | (± 12.6) | 52.2 | (± 12.6) |
| Northeast | 54 | 26.0 | (± 11.2) | 30.1 | (± 11.5) | 45.8 | (± 13.2) | 42.5 | (± 12.9) |
| International [§] | 28 | — | — | — | — | — | — | — | — |
| West [§] | 16 | — | — | — | — | — | — | — | — |
| Total | 514 | 18.9 | (± 3.4) | 34.5 | (± 4.3) | 50.1 | (± 4.5) | 51.3 | (± 4.4) |

*Physicians who counseled and/or referred more than 80% of patients they believed practiced specific health-risk behaviors.

[†]Because of missing data, numbers may not total 514.

[‡]Confidence interval.

[§]Estimates based on fewer than 30 physicians are not shown because numbers were too small to analyze.

Primary-Care Physicians — Continued

patterns did not vary consistently by location of medical school, board certification, or practice setting. The percentage of physicians specializing in internal medicine who routinely provided smoking counseling was substantially lower than that for physicians in general practice, family practice, or OB/GYN (Figure 1).

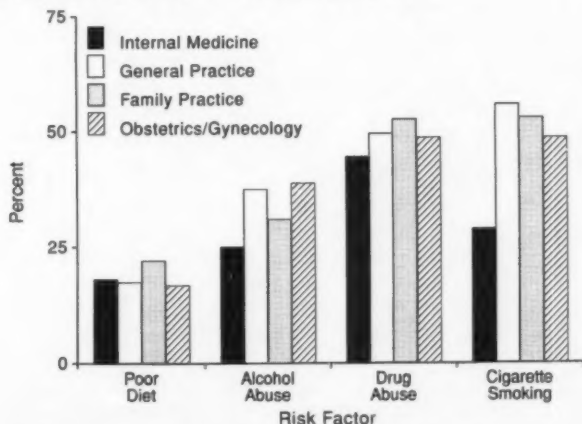
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Editorial Note: Behavioral risk factors such as smoking, alcohol abuse, drug abuse, and poor eating habits are major contributors to chronic disease morbidity and mortality. Health education, especially when offered through primary-care physicians, can be an effective tool in reducing the prevalence of these risk factors.

In North Carolina, the percentage of physicians who reported providing counseling/referral services for specific behaviors (18.9%–51.3%) is substantially lower than the percentage (75%) targeted by the national health objectives for the year 2000 (1). The findings in North Carolina may be overestimated because of self-reported data and a response rate of 58.6%. However, individual and combined response rates were comparable to response rates in previous self-reported physician surveys (34%–78%) (4).

Partners-in-Prevention, a cooperative initiative between North Carolina medical societies and DEHNR, will use the findings from this study to identify and help address obstacles to providing health education through primary-care physicians. In addition, this survey will be modified and used periodically to monitor preventive practices, to assess barriers to providing preventive services, and to identify effective methods of increasing the use of health education and preventive services by primary-care physicians.

FIGURE 1. Percentage of primary-care physicians who routinely* counseled at-risk patients, by physician specialty — North Carolina, 1991



*Physicians who counseled and/or referred more than 80% of patients they believed practiced specific health-risk behaviors.

*Primary-Care Physicians — Continued**References*

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3. Shah BV. Software for Survey Data Analysis (SUDAAN) version 5.30 [Software documentation]. Research Triangle Park, North Carolina: Research Triangle Institute, 1989.
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Surgical Sterilization Among Women and Use of Condoms — Baltimore, 1989-1990

Since 1980, surgical sterilization among women has become the most common contraceptive method used among women aged >30 years in the United States and is used by 28% of women aged 15-44 years (1). A previous report of women in drug treatment suggested that women who have been surgically sterilized were less likely to report condom use—an effective measure for prevention of human immunodeficiency virus (HIV) infection and sexually transmitted diseases (STDs)—than were nonsterilized women (2). This report summarizes a study of the relation between surgical sterilization, risk status for STDs and HIV, and use of condoms among women who reside in two inner-city, minority neighborhoods in Baltimore.

During November 1989-February 1990, as part of the baseline evaluation for a community-based HIV-prevention program, the Baltimore City Health Department and Johns Hopkins University, in cooperation with CDC, interviewed 766 women aged 17-35 years residing in the two neighborhoods by telephone using random-digit dialing. Self-reported data from sterilized and nonsterilized women were analyzed and risk indices were created for personal risk* and partner risk†. Of the 766 women, 210 (44 sterilized and 166 nonsterilized) women aged 20-35 years were asked additional questions about their attitudes toward condom use.

Surgical sterilization increased directly with age to 45% among women aged 30-35 years (Table 1). In comparison, condom use declined with increasing age, regardless of sterilization status. Analysis including stratification by age group indicated that sterilized and nonsterilized women were similar by education level, race, and work status; however, sterilized women were more likely to have ever been pregnant and ever been married (Table 2).

Women in both groups were similar in attitudes about HIV and HIV prevention, including perceptions of community norms; perceived self-efficacy in avoiding HIV infection; perceived condom efficacy for STD/HIV protection; condom acceptability; concern about HIV; concerns about injecting-drug use, HIV, and STDs; the ability to communicate with partners about HIV infection; and the ability to refuse sex. However, sterilized women were somewhat less likely (71%) than nonsterilized women (90%) to believe that condoms prevent pregnancy ($p=0.02$).

*Defined as having more than one sex partner during the year preceding the survey, using injecting drugs during the month preceding the survey, ever being in drug treatment, receiving money or drugs for sex, receiving STD treatment during the 6 months preceding the survey, using drugs at last sexual episode, or using alcohol at last sexual episode (which is associated with nonuse of condoms).

†Defined as, during the 6 months preceding the survey, having sex with someone who had an STD, had AIDS, was a prostitute, was an injecting-drug user, or was bisexual/homosexual.

Surgical Sterilization — Continued

More than one third of both sterilized (35%) and nonsterilized (37%) women had a personal and/or a partner risk factor for STDs (Table 2). Although nonsterilized women were more likely to report personal risk factors for STD/HIV infection and sterilized women were more likely to report risk factors for their partners, these differences were not statistically significant (Table 2).

(Continued on page 575)

TABLE 1. Percentage of women who had undergone surgical sterilization, and current condom use, by age — Baltimore, 1989–1990*

| Age group (yrs) | % Surgical sterilization | % Current condom use among all women | | | |
|-----------------|--------------------------|--------------------------------------|--------------|-----------|-------|
| | | Always | Most of time | Sometimes | Never |
| <20 | 0 | 32.9 | 20.7 | 24.4 | 22.0 |
| 20–24 | 5.3 | 17.2 | 13.9 | 34.4 | 34.4 |
| 25–29 | 27.7 | 12.0 | 3.8 | 26.1 | 58.2 |
| 30–35 | 45.1 | 6.2 | 8.1 | 20.1 | 65.6 |

*Sample size = 766.

TABLE 2. Women who had or had not been sterilized, by HIV and sexually transmitted disease (STD) risk factors, consistency of condom use, and other selected characteristics, and by age-stratified analysis — Baltimore, 1989–1990*

| Characteristic | Nonage-stratified analysis | | | Age-stratified analysis† | | |
|--|----------------------------|-----------------------|------------|--------------------------|------------|---------|
| | % Sterilized women | % Nonsterilized women | Odds ratio | Odds ratio | Chi-square | p value |
| Education (≥12 yrs) | 83.1 | 88.5 | | | | NS‡ |
| Work outside the home | 67.5 | 69.1 | | | | NS |
| Ever married | 62.1 | 33.9 | 3.2 | 1.9 | 8.7 | 0.0031 |
| Ever pregnant | 96.4 | 76.3 | 8.7 | 7.2 | 22.2 | <0.0001 |
| Risk factors for HIV/STD | | | | | | |
| Any personal risk factor* | 26.6 | 34.1 | | | | NS |
| Any partner risk factor** | 14.4 | 11.6 | | | | NS |
| Any personal or partner risk factor | 35.0 | 37.0 | | | | NS |
| Consistency of condom use | | | | | | |
| Always | 3.2 | 14.0 | | | | |
| Most of the time | 2.7 | 10.7 | | | | |
| Sometimes | 16.1 | 29.6 | | | | |
| Never | 78.0 | 45.7 | | | | |
| Always, Most of time, Sometimes (versus Never) | 22.0 | 54.3 | 0.2 | 0.3 | 32.3 | <0.0001 |

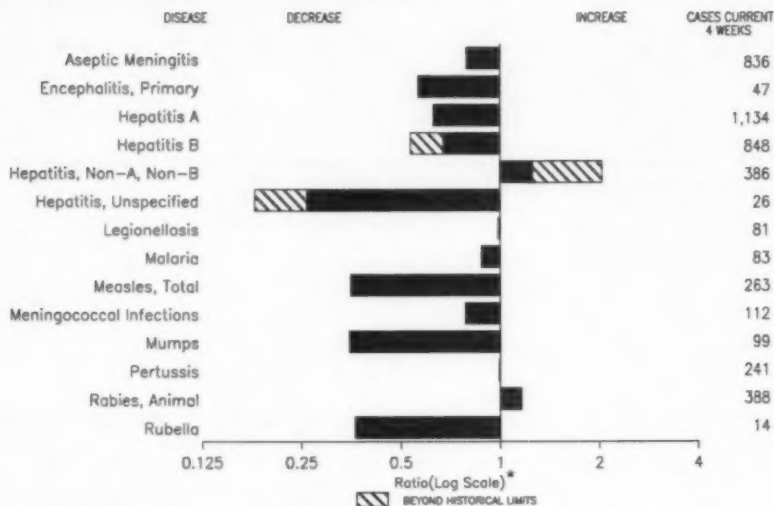
*Sample size = 657; aged 20–35 years.

†Mantel-Haentzel.

‡Not significant.

*Defined as having more than one sex partner during the year preceding the survey, using injecting drugs during the month preceding the survey, ever being in drug treatment, receiving money or drugs for sex, receiving STD treatment during the 6 months preceding the survey, using drugs at last sexual episode, or using alcohol at last sexual episode (which is associated with nonuse of condoms).

**Defined as, during the 6 months preceding the survey, having sex with someone who had an STD, had AIDS, was a prostitute, was an injecting-drug user, or was bisexual/homosexual.

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending August 1, 1992, with historical data — United States

*Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — cases of specified notifiable diseases, United States, cumulative, week ending August 1, 1992 (31st Week)

| | Cum. 1992 | | Cum. 1992 |
|---|-----------|---|-----------|
| AIDS* | 27,377 | Measles: imported | 98 |
| Anthrax | - | indigenous | 1,424 |
| Botulism: Foodborne | 10 | Plague | 3 |
| Infant | 32 | Poliomyelitis, Paralytic [†] | - |
| Other | 2 | Psittacosis | 50 |
| Brucellosis | 43 | Rabies, human | - |
| Cholera [‡] | 92 | Syphilis, primary & secondary | 20,110 |
| Congenital rubella syndrome | 7 | Syphilis, congenital, age < 1 year [§] | 697 |
| Diphtheria | 3 | Tetanus | 9 |
| Encephalitis, post-infectious | 87 | Toxic shock syndrome | 148 |
| Gonorrhea | 287,585 | Trichinosis | 17 |
| Haemophilus influenzae (invasive disease) | 894 | Tuberculosis | 12,794 |
| Hansen Disease | 104 | Tularemia | 85 |
| Leptospirosis | 18 | Typhoid fever | 193 |
| Lyme Disease | 3,345 | Typhus fever, tickborne (RMSF) | 209 |

*Updated monthly; last update August 1, 1992.

[†]Delayed reports from California.

[‡]Two cases of suspected poliomyelitis have been reported in 1992; 6 of the 9 suspected cases with onset in 1991 were confirmed and 5 of the 8 suspected cases with onset in 1990 were confirmed; all were vaccine associated.

[§]Updates for first quarter 1992.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending August 1, 1992, and August 3, 1991 (31st Week)

| Reporting Area | AIDS* | Aseptic Meningi- tis | Encephalitis | | Gonorrhea | | Hepatitis (Viral), by type | | | | Legional- losis | Lyme Disease |
|----------------|--------------|----------------------------|--------------|----------------------|--------------|--------------|----------------------------|--------------|--------------|------------------|--------------------|-----------------|
| | | | Primary | Post-in- fectious | | | A | B | NA, NB | Unspeci- fied | | |
| | Cum. 1992 | Cum. 1992 | Cum. 1992 | Cum. 1992 | Cum. 1992 | Cum. 1991 | Cum. 1992 | Cum. 1992 | Cum. 1992 | Cum. 1992 | Cum. 1992 | Cum. 1992 |
| UNITED STATES | 27,377 | 3,797 | 316 | 87 | 287,585 | 344,918 | 11,483 | 9,217 | 4,360 | 390 | 745 | 3,345 |
| NEW ENGLAND | 906 | 162 | 20 | - | 6,040 | 8,472 | 344 | 343 | 46 | 15 | 35 | 605 |
| Maine | 35 | 14 | 2 | - | 48 | 100 | 23 | 17 | 5 | - | 1 | 4 |
| N.H. | 30 | 7 | 2 | - | 82 | 154 | 25 | 24 | 12 | 1 | 3 | 18 |
| Vt. | 13 | 8 | 3 | - | 15 | 31 | 5 | 9 | 9 | - | 2 | 3 |
| Mass. | 492 | 71 | 10 | - | 2,210 | 3,681 | 172 | 263 | 17 | 14 | 19 | 86 |
| R.I. | 67 | 52 | 3 | - | 434 | 698 | 81 | 17 | 3 | - | 10 | 129 |
| Conn. | 269 | - | - | - | 3,251 | 3,808 | 38 | 13 | - | - | - | 365 |
| MID. ATLANTIC | 6,806 | 398 | 16 | 8 | 30,147 | 41,447 | 895 | 1,215 | 226 | 14 | 220 | 2,019 |
| Upstate N.Y. | 752 | 180 | - | - | 5,845 | 7,256 | 214 | 284 | 135 | 7 | 86 | 1,287 |
| N.Y. City | 3,901 | 79 | 4 | 1 | 10,148 | 15,914 | 343 | 213 | 4 | - | 3 | 8 |
| N.J. | 1,362 | - | - | - | 4,350 | 6,846 | 135 | 311 | 67 | - | 27 | 271 |
| Pa. | 791 | 137 | 12 | 7 | 9,804 | 11,431 | 193 | 397 | 20 | 7 | 104 | 463 |
| E.N. CENTRAL | 2,520 | 524 | 82 | 26 | 54,909 | 63,730 | 1,676 | 1,396 | 774 | 24 | 166 | 70 |
| Ohio | 454 | 148 | 24 | 2 | 18,256 | 19,401 | 268 | 143 | 59 | 4 | 77 | 33 |
| Ind. | 262 | 83 | 9 | 11 | 5,042 | 6,394 | 505 | 483 | 374 | 8 | 18 | 23 |
| Ill. | 1,155 | 112 | 28 | 6 | 18,285 | 18,730 | 297 | 143 | 39 | 4 | 11 | 6 |
| Mich. | 500 | 173 | 19 | 7 | 13,089 | 14,685 | 83 | 362 | 255 | 8 | 38 | 8 |
| Wis. | 149 | 8 | 2 | - | 2,237 | 4,520 | 523 | 265 | 47 | - | 22 | - |
| W.N. CENTRAL | 762 | 206 | 19 | 6 | 12,838 | 16,597 | 1,364 | 372 | 158 | 19 | 48 | 153 |
| Minn. | 138 | 20 | 3 | - | 1,694 | 1,618 | 416 | 45 | 13 | 2 | 3 | 63 |
| Iowa | 54 | 27 | - | 3 | 916 | 1,167 | 23 | 24 | 4 | 2 | 14 | 12 |
| Mo. | 387 | 87 | 8 | - | 6,995 | 10,424 | 468 | 240 | 120 | 13 | 16 | 56 |
| N. Dak. | 8 | 1 | 0 | - | 39 | 40 | 69 | 1 | 3 | 1 | 1 | - |
| S. Dak. | 6 | 7 | - | 1 | 103 | 205 | 180 | 3 | - | - | - | - |
| Nebr. | 34 | 10 | 2 | 2 | 8 | 1,104 | 109 | 15 | 7 | 1 | 12 | 10 |
| Kans. | 135 | 54 | 5 | - | 3,083 | 2,039 | 99 | 44 | 11 | - | 2 | 11 |
| S. ATLANTIC | 6,452 | 720 | 64 | 35 | 90,308 | 105,312 | 714 | 1,537 | 596 | 58 | 108 | 251 |
| Del. | 79 | 30 | 6 | - | 1,047 | 1,554 | 25 | 147 | 123 | 1 | 16 | 101 |
| Md. | 757 | 86 | 11 | - | 8,925 | 11,026 | 133 | 230 | 23 | 5 | 20 | 53 |
| D.C. | 423 | 14 | 1 | - | 3,924 | 5,782 | 12 | 48 | 233 | - | 7 | 1 |
| Va. | 392 | 105 | 19 | 9 | 10,346 | 10,131 | 61 | 105 | 23 | 20 | 10 | 52 |
| W. Va. | 34 | 7 | 4 | - | 516 | 720 | 5 | 33 | 1 | 12 | - | 3 |
| N.C. | 436 | 96 | 19 | - | 14,917 | 21,059 | 63 | 269 | 60 | - | 19 | 22 |
| S.C. | 221 | 7 | - | - | 6,692 | 8,186 | 16 | 33 | - | 1 | 16 | 1 |
| Ge. | 842 | 92 | 2 | - | 27,454 | 25,441 | 97 | 173 | 58 | - | 5 | 2 |
| Fla. | 3,268 | 283 | 2 | 26 | 16,487 | 21,413 | 302 | 499 | 75 | 19 | 15 | 16 |
| E.S. CENTRAL | 860 | 237 | 12 | - | 27,040 | 32,753 | 178 | 778 | 1,354 | 2 | 42 | 44 |
| Ky. | 128 | 74 | 7 | - | 2,840 | 3,499 | 48 | 46 | 3 | - | 18 | 14 |
| Tenn. | 265 | 56 | 2 | - | 8,570 | 11,986 | 80 | 652 | 1,339 | - | 18 | 23 |
| Ala. | 313 | 66 | 2 | - | 9,094 | 8,908 | 29 | 77 | 11 | 1 | 6 | 7 |
| Miss. | 154 | 41 | 1 | - | 6,536 | 8,350 | 21 | 3 | 1 | 1 | - | - |
| W.S. CENTRAL | 2,566 | 494 | 32 | 4 | 32,175 | 39,085 | 1,097 | 1,195 | 80 | 94 | 12 | 75 |
| Ark. | 127 | 5 | 7 | - | 4,540 | 4,730 | 53 | 49 | 7 | 4 | - | 10 |
| La. | 466 | 38 | 3 | 1 | 8,978 | 9,159 | 96 | 110 | 33 | 2 | 1 | 4 |
| Okl. | 147 | 7 | 3 | 2 | 3,214 | 4,037 | 122 | 117 | 24 | 3 | 6 | 20 |
| Tex. | 1,826 | 451 | 19 | 1 | 15,443 | 21,159 | 826 | 919 | 16 | 85 | 5 | 41 |
| MOUNTAIN | 788 | 135 | 13 | 4 | 7,047 | 7,396 | 1,648 | 411 | 161 | 33 | 58 | 5 |
| Mont. | 14 | 2 | 1 | 1 | 60 | 64 | 48 | 23 | 25 | - | 9 | - |
| Idaho | 19 | 19 | - | - | 65 | 85 | 37 | 53 | 2 | - | 4 | 2 |
| Wyo. | 2 | - | 1 | - | 31 | 56 | 3 | 2 | 10 | - | 1 | 1 |
| Colo. | 264 | 43 | 6 | 1 | 2,582 | 2,149 | 471 | 65 | 58 | 17 | 10 | - |
| N. Mex. | 66 | 10 | 3 | 1 | 531 | 675 | 167 | 111 | 15 | 7 | 2 | 1 |
| Ariz. | 254 | 40 | 1 | - | 2,478 | 2,743 | 677 | 86 | 20 | 4 | 18 | - |
| Utah | 54 | 2 | 1 | 1 | 158 | 184 | 194 | 10 | 19 | 5 | 2 | 1 |
| Nev. | 115 | 19 | - | - | 1,142 | 1,440 | 51 | 61 | 12 | - | 12 | - |
| PACIFIC | 5,717 | 923 | 58 | 4 | 27,081 | 30,126 | 3,577 | 1,970 | 965 | 131 | 56 | 123 |
| Wash. | 314 | - | - | - | 2,226 | 2,736 | 415 | 200 | 85 | 7 | 8 | 3 |
| Oreg. | 161 | - | - | - | 982 | 1,208 | 208 | 174 | 46 | 7 | - | - |
| Calif. | 5,146 | 861 | 54 | 3 | 23,162 | 25,269 | 2,786 | 1,576 | 672 | 109 | 47 | 119 |
| Alaska | 11 | 9 | 3 | - | 429 | 458 | 31 | 8 | 2 | 1 | - | - |
| Hawaii | 85 | 53 | - | 1 | 282 | 455 | 137 | 12 | 160 | 7 | 1 | 1 |
| Guam | - | 2 | - | - | 48 | 5 | 5 | 1 | - | 6 | - | 1 |
| P.R. | 877 | 111 | 1 | - | 119 | 378 | 23 | 272 | 108 | 16 | 1 | - |
| V.I. | 2 | - | - | - | 63 | 259 | 2 | 5 | - | - | - | - |
| Amer. Samoa | - | - | - | - | 26 | 29 | 1 | 1 | - | - | - | - |
| C.N.M.I. | - | - | - | - | 49 | 48 | 1 | - | - | - | - | - |

N: Not notifiable

U: Unavailable

C.N.M.I.: Commonwealth of the Northern Mariana Islands

*Updated monthly; last update August 1, 1992.

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending August 1, 1992, and August 3, 1991 (31st Week)

| Reporting Area | Malaria | Measles (Rubella) | | | | | Meningococcal Infections | Mumps | | Pertussis | | | Rubella | | |
|----------------|---------|-------------------|-------|-----------|------|-----------|--------------------------|-------|-----------|-----------|-----------|-----------|---------|-----------|-----------|
| | | Indigenous | | Imported* | | Total | | 1992 | Cum. 1992 | 1992 | Cum. 1992 | Cum. 1991 | 1992 | Cum. 1992 | Cum. 1991 |
| | | Cum. 1992 | 1992 | Cum. 1992 | 1992 | Cum. 1992 | Cum. 1991 | | | | | | | | |
| UNITED STATES | 504 | 155 | 1,424 | 2 | 98 | 8,102 | 1,418 | 18 | 1,673 | 62 | 1,041 | 1,368 | 4 | 122 | 1,069 |
| NEW ENGLAND | 28 | - | 48 | - | 7 | 60 | 90 | 1 | 11 | 5 | 92 | 200 | - | 6 | 4 |
| Maine | - | - | 2 | - | - | 2 | 8 | - | - | - | 4 | 45 | - | - | - |
| N.H. | 3 | - | 15 | - | - | - | 5 | 1 | 3 | 1 | 27 | 17 | - | - | 1 |
| Vt. | - | - | - | - | - | - | 4 | - | - | - | - | - | - | - | - |
| Mass. | 14 | - | 11 | - | 3 | 27 | 37 | - | 2 | 4 | 40 | 116 | - | - | 2 |
| R.I. | 4 | - | 20 | - | - | 2 | 1 | - | - | - | - | - | - | 4 | 1 |
| Conn. | 4 | - | - | - | 4 | 24 | 35 | - | 6 | - | 19 | 19 | - | 1 | 1 |
| MID. ATLANTIC | 143 | - | 175 | - | 12 | 4,454 | 162 | 2 | 118 | 7 | 98 | 137 | 2 | 16 | 562 |
| Update N.Y. | 21 | - | 79 | - | 3 | 381 | 77 | - | 48 | 3 | 28 | 76 | - | 11 | 536 |
| N.Y. City | 77 | - | 42 | - | 8 | 1,600 | 14 | - | 21 | - | 15 | 19 | - | - | 2 |
| N.J. | 24 | - | 48 | - | 1 | 1,017 | 25 | - | 9 | - | 16 | 10 | - | 2 | 2 |
| Pa. | 21 | - | 5 | - | - | 1,458 | 46 | 2 | 40 | 4 | 39 | 32 | 2 | 3 | 22 |
| E.N. CENTRAL | 33 | - | 23 | - | 13 | 77 | 218 | 1 | 217 | 4 | 78 | 268 | - | 7 | 175 |
| Ohio | 9 | - | - | - | 6 | 3 | 56 | - | 82 | - | 32 | 71 | - | - | 147 |
| Ind. | 9 | - | 20 | - | - | 1 | 33 | - | 7 | 2 | 17 | 47 | - | - | 2 |
| Ill. | 9 | - | 1 | - | 4 | 25 | 57 | - | 63 | - | 9 | 54 | - | - | 7 |
| Mich. | 8 | - | 2 | - | 2 | 39 | 56 | 1 | 57 | 1 | 6 | 23 | - | - | 20 |
| Wis. | 2 | - | - | - | 1 | 9 | 16 | - | 8 | 1 | 14 | 73 | - | - | - |
| W.N. CENTRAL | 27 | - | 6 | - | 8 | 40 | 65 | - | 60 | 6 | 92 | 100 | - | 4 | 16 |
| Minn. | 13 | - | 5 | - | 5 | 10 | 9 | - | 19 | 3 | 32 | 41 | - | - | 6 |
| Iowa | 2 | - | - | - | 3 | 15 | 7 | - | 10 | - | 3 | 11 | - | - | 5 |
| Mo. | 8 | - | - | - | - | 1 | 20 | - | 23 | - | 32 | 32 | - | - | 5 |
| N. Dak. | - | - | - | - | - | - | 1 | - | - | - | - | - | - | - | - |
| S. Dak. | 1 | - | - | - | - | - | 1 | - | 2 | - | 8 | 2 | - | - | - |
| Nebr. | 4 | - | - | - | - | - | - | - | - | - | 6 | 3 | - | - | - |
| Kans. | 3 | - | 1 | - | - | 13 | 14 | - | 2 | - | 4 | 6 | - | 4 | - |
| S. ATLANTIC | 93 | 3 | 117 | - | 11 | 437 | 282 | 2 | 624 | 11 | 84 | 140 | - | 14 | 7 |
| Del. | 4 | - | 3 | - | - | 21 | 2 | - | 4 | 2 | 3 | - | - | - | - |
| Md. | 27 | - | 9 | - | 7 | 170 | 27 | 1 | 61 | - | 16 | 32 | - | 5 | 1 |
| D.C. | 7 | - | - | - | - | - | 3 | - | 5 | 1 | 1 | - | - | 1 | 1 |
| Va. | 20 | - | 10 | - | 4 | 28 | 38 | - | 38 | - | 6 | 16 | - | - | - |
| W. Va. | 1 | - | - | - | - | - | 14 | - | 22 | 2 | 4 | 8 | - | 1 | - |
| N.C. | 8 | - | 25 | - | - | 39 | 59 | - | 126 | - | 13 | 21 | - | - | 2 |
| S.C. | - | - | 29 | - | - | 12 | 18 | - | 47 | 1 | 10 | 9 | - | 2 | - |
| Ge. | 3 | - | - | - | - | 14 | 38 | - | 56 | - | 8 | 24 | - | - | - |
| Fla. | 23 | 3 | 41 | - | - | 153 | 63 | 1 | 265 | 5 | 23 | 30 | - | 5 | 3 |
| E.S. CENTRAL | 12 | 2 | 446 | - | 18 | 2 | 91 | 1 | 41 | 1 | 19 | 43 | - | 1 | 100 |
| Ky. | 1 | 2 | 444 | - | 1 | 1 | 28 | - | - | - | - | - | - | - | - |
| Tenn. | 7 | - | - | - | - | 1 | 27 | - | 13 | - | 5 | 16 | - | 1 | 100 |
| Ala. | 4 | - | - | - | - | - | 27 | 1 | 8 | 1 | 13 | 23 | - | - | - |
| Miss. | - | U | 2 | U | 17 | - | 9 | U | 20 | U | 1 | 4 | U | - | - |
| W.S. CENTRAL | 17 | 148 | 515 | - | - | 158 | 103 | 1 | 289 | 1 | 36 | 35 | - | - | 5 |
| Ark. | 1 | - | - | - | - | 5 | 10 | - | 6 | 1 | 10 | 4 | - | - | 1 |
| La. | 1 | - | - | - | - | - | 24 | 1 | 16 | - | 2 | 9 | - | - | - |
| Okla. | 4 | - | 11 | - | - | - | 13 | - | 15 | - | 24 | 16 | - | - | - |
| Tex. | 12 | 148 | 504 | - | - | 153 | 56 | - | 252 | - | 6 | - | - | - | 4 |
| MOUNTAIN | 12 | - | 4 | 1 | 8 | 957 | 69 | 2 | 100 | 11 | 204 | 143 | - | 5 | 6 |
| Mont. | - | - | - | - | - | - | 12 | - | 2 | - | 1 | 2 | - | - | - |
| Idaho | - | - | - | - | - | 392 | 8 | - | 3 | - | 23 | 21 | - | 1 | - |
| Wyo. | - | - | 1 | - | - | 3 | 2 | - | - | - | - | 3 | - | - | - |
| Colo. | 5 | - | 3 | - | 7 | 5 | 12 | - | 14 | 1 | 25 | 73 | - | - | - |
| N. Mex. | 1 | - | - | 15 | 1 | 98 | 7 | N | N | 1 | 42 | 16 | - | - | 1 |
| Ariz. | 4 | - | - | - | - | 312 | 15 | 2 | 56 | 9 | 88 | 9 | - | 2 | - |
| Utah | 1 | - | - | - | - | 129 | 4 | - | 18 | - | 24 | 18 | - | - | - |
| Nev. | 1 | U | - | U | - | 18 | 9 | U | 7 | U | 1 | 2 | U | 1 | 4 |
| PACIFIC | 139 | 1 | 90 | 1 | 21 | 1,917 | 358 | 6 | 213 | 16 | 338 | 302 | 2 | 69 | 194 |
| Wash. | 7 | - | - | - | 10 | 61 | 52 | - | 9 | 6 | 98 | 72 | - | 6 | 8 |
| Oreg. | 10 | - | 4 | - | 1 | 62 | 47 | N | N | 4 | 20 | 40 | - | 2 | 2 |
| Calif. | 114 | - | 46 | - | 2 | 1,774 | 248 | 6 | 190 | 6 | 203 | 141 | 1 | 40 | 176 |
| Alaska | 1 | - | 8 | - | 1 | 1 | 6 | - | 1 | - | 3 | 12 | - | - | 1 |
| Hawaii | 7 | 1 | 32 | 11 | 7 | 19 | 5 | - | 13 | - | 14 | 37 | 1 | 21 | 7 |
| Guam | 1 | U | 10 | U | - | - | - | U | 8 | U | - | - | U | 1 | - |
| P.R. | - | - | 293 | - | - | 89 | 3 | - | 1 | - | 8 | 31 | - | - | 1 |
| V.I. | - | - | - | - | - | 2 | - | - | 17 | - | - | - | - | - | - |
| Amer. Samoa | - | - | - | - | - | 24 | - | - | - | - | 6 | - | - | - | - |
| C.N.M.I. | - | U | - | U | - | - | - | U | - | U | 1 | - | U | - | - |

*For measles only, imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable ¹International ²Out-of-state

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending August 1, 1992, and August 3, 1991 (31st Week)

| Reporting Area | Syphilis (Primary & Secondary) | | Toxic- shock Syndrome | Tuberculosis | | Tula- remia | Typhoid Fever | Typhus Fever (Tick-borne) (RMSF) | Rabies, Animal |
|----------------|-----------------------------------|--------------|-----------------------------|--------------|--------------|----------------|------------------|--|-------------------|
| | Cum. 1992 | Cum. 1991 | Cum. 1992 | Cum. 1992 | Cum. 1991 | Cum. 1992 | Cum. 1992 | Cum. 1992 | Cum. 1992 |
| UNITED STATES | 20,110 | 25,061 | 148 | 12,794 | 13,117 | 85 | 193 | 209 | 4,732 |
| NEW ENGLAND | 400 | 652 | 10 | 224 | 357 | 1 | 21 | 7 | 450 |
| Maine | 2 | - | - | 17 | 27 | - | - | - | - |
| N.H. | 35 | 12 | 6 | 3 | 5 | - | 1 | - | 1 |
| Vt. | 1 | 1 | - | 3 | 4 | - | - | - | 18 |
| Mass. | 190 | 307 | 3 | 98 | 179 | 1 | 12 | 4 | 5 |
| R.I. | 21 | 36 | 1 | 24 | 33 | - | - | 2 | - |
| Conn. | 151 | 296 | - | 79 | 109 | - | 8 | 1 | 426 |
| MID. ATLANTIC | 3,053 | 4,510 | 19 | 2,999 | 3,080 | - | 53 | 17 | 1,392 |
| Upstate N.Y. | 196 | 414 | 8 | 214 | 292 | - | 7 | 6 | 765 |
| N.Y. City | 1,665 | 2,227 | - | 1,885 | 1,875 | - | 23 | 3 | - |
| N.J. | 391 | 764 | - | 534 | 505 | - | 16 | 4 | 446 |
| Pa. | 801 | 1,106 | 11 | 366 | 406 | - | 7 | 4 | 181 |
| E. N. CENTRAL | 3,017 | 2,520 | 40 | 1,304 | 1,309 | 1 | 21 | 18 | 80 |
| Ohio | 498 | 400 | 12 | 72 | 59 | - | 3 | 11 | 8 |
| Ind. | 165 | 85 | 9 | 101 | 111 | - | 1 | 3 | 9 |
| Ill. | 1,391 | 1,341 | 5 | 663 | 681 | 1 | 15 | - | 12 |
| Mich. | 610 | 766 | 14 | 291 | 284 | - | 1 | 1 | 8 |
| Wis. | 383 | 327 | - | 52 | 60 | - | 1 | 3 | 43 |
| W.N. CENTRAL | 690 | 427 | 26 | 292 | 310 | 35 | 2 | 18 | 794 |
| Minn. | 47 | 45 | 5 | 72 | 59 | - | 1 | - | 120 |
| Iowa | 30 | 37 | 5 | 22 | 46 | - | - | - | 136 |
| Mo. | 530 | 299 | 5 | 137 | 131 | 27 | 1 | 16 | 8 |
| N. Dak. | 1 | 1 | 1 | 2 | 6 | - | - | - | 103 |
| S. Dak. | - | 1 | - | 15 | 24 | 6 | - | 1 | 95 |
| Nebr. | 1 | 9 | 3 | 13 | 11 | 1 | - | - | 8 |
| Kans. | 81 | 35 | 7 | 31 | 33 | 1 | - | 1 | 324 |
| S. ATLANTIC | 5,591 | 7,404 | 14 | 2,370 | 2,484 | 4 | 14 | 47 | 1,063 |
| Del. | 134 | 97 | 3 | 25 | 16 | - | - | 3 | 132 |
| Md. | 410 | 615 | 2 | 161 | 222 | 1 | 3 | 4 | 314 |
| D.C. | 249 | 469 | - | 78 | 117 | - | 1 | 1 | 11 |
| Va. | 429 | 549 | 1 | 169 | 218 | 2 | - | 2 | 182 |
| W. Va. | 10 | 19 | 1 | 53 | 42 | - | 1 | 2 | 24 |
| N.C. | 1,431 | 1,139 | 3 | 298 | 336 | 1 | - | 24 | 15 |
| S.C. | 752 | 923 | 1 | 242 | 239 | - | 1 | 5 | 91 |
| Ga. | 1,132 | 1,808 | 1 | 535 | 498 | - | - | 3 | 224 |
| Fla. | 1,044 | 1,785 | 2 | 809 | 794 | - | 8 | 2 | 70 |
| E.S. CENTRAL | 2,547 | 2,693 | 1 | 869 | 865 | 5 | 3 | 36 | 86 |
| Ky. | 89 | 53 | - | 236 | 207 | 1 | - | 5 | 48 |
| Tenn. | 688 | 913 | 1 | 236 | 230 | 4 | - | 28 | - |
| Ala. | 980 | 981 | - | 233 | 242 | - | - | 3 | 38 |
| Miss. | 790 | 746 | - | 164 | 186 | - | 3 | - | - |
| W.S. CENTRAL | 3,627 | 4,480 | 1 | 1,306 | 1,507 | 19 | 6 | 57 | 480 |
| Ark. | 493 | 386 | - | 106 | 131 | 11 | - | 8 | 25 |
| La. | 1,487 | 1,490 | - | 108 | 128 | - | - | - | - |
| Okl. | 177 | 111 | - | 95 | 104 | 8 | - | 49 | 231 |
| Tex. | 1,470 | 2,493 | 1 | 997 | 1,144 | - | 6 | - | 224 |
| MOUNTAIN | 234 | 349 | 12 | 339 | 358 | 18 | 2 | 5 | 101 |
| Mont. | 7 | 5 | - | - | 6 | 8 | - | 2 | 12 |
| Idaho | 1 | 3 | 1 | 14 | 4 | - | 1 | - | - |
| Wyo. | 1 | 4 | - | - | 3 | 2 | - | - | 23 |
| Colo. | 34 | 55 | 4 | 29 | 35 | 3 | 1 | - | 9 |
| N. Mex. | 27 | 21 | 2 | 45 | 45 | 5 | - | 1 | 5 |
| Ariz. | 117 | 225 | 2 | 156 | 195 | - | - | - | 49 |
| Utah | 6 | 5 | 3 | 52 | 30 | - | - | 1 | 1 |
| Nev. | 41 | 31 | - | 41 | 40 | - | - | - | 2 |
| PACIFIC | 951 | 1,628 | 25 | 3,091 | 2,847 | 2 | 71 | 4 | 286 |
| Wash. | 49 | 111 | - | 179 | 178 | - | 4 | - | - |
| Oreg. | 26 | 49 | 1 | 78 | 67 | - | - | 1 | 1 |
| Calif. | 867 | 1,458 | 24 | 2,658 | 2,435 | 1 | 64 | 3 | 273 |
| Alaska | 4 | 4 | - | 32 | 46 | 1 | - | - | 12 |
| Hawaii | 5 | 4 | - | 144 | 121 | - | 3 | - | - |
| Guam | 2 | - | - | 34 | 6 | - | 3 | - | - |
| P.R. | 191 | 287 | - | 135 | 128 | - | 1 | - | 31 |
| V.I. | 39 | 73 | - | 3 | 2 | - | - | - | - |
| Amer. Samoa | - | - | - | - | 2 | - | 1 | - | - |
| C.N.M.I. | 4 | 2 | - | 38 | 8 | - | 1 | - | - |

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,* week ending
August 1, 1992 (31st Week)

| Reporting Area | All Causes, By Age (Years) | | | | | | P&I† | Total | Reporting Area | All Causes, By Age (Years) | | | | | | P&I† | Total |
|---------------------|----------------------------|-------|-------|-------|------|----|------|-------|-----------------------|----------------------------|-------|-------|-------|------|-----|------|-------|
| | All Ages | ≥65 | 45-64 | 25-44 | 1-24 | <1 | | | | All Ages | ≥65 | 45-64 | 25-44 | 1-24 | <1 | | |
| NEW ENGLAND | 588 | 410 | 103 | 41 | 21 | 13 | 48 | | S. ATLANTIC | 1,135 | 679 | 246 | 145 | 30 | 33 | 55 | |
| Boston, Mass. | 172 | 113 | 33 | 14 | 7 | 5 | 15 | | Atlanta, Ga. | 159 | 95 | 34 | 23 | 2 | 5 | 4 | |
| Bridgeport, Conn. | U | U | U | U | U | U | U | | Baltimore, Md. | 194 | 110 | 50 | 24 | 6 | 4 | 8 | |
| Cambridge, Mass. | 27 | 23 | 4 | - | - | - | 5 | | Charlotte, N.C. | 92 | 47 | 27 | 10 | 3 | 5 | 6 | |
| Fall River, Mass. | 27 | 23 | 3 | - | 1 | - | 2 | | Jacksonville, Fla. | 127 | 77 | 33 | 11 | 5 | 1 | 5 | |
| Hartford, Conn. | 74 | 44 | 14 | 9 | 6 | 1 | 3 | | Miami, Fla. | 113 | 59 | 27 | 21 | 6 | - | - | |
| Lowell, Mass. | 23 | 19 | 3 | 1 | - | - | 1 | | Norfolk, Va. | 44 | 29 | 6 | 6 | 3 | - | 1 | |
| Lynn, Mass. | 11 | 9 | 1 | 1 | - | - | 1 | | Richmond, Va. | 78 | 58 | 12 | 5 | - | 3 | 5 | |
| New Bedford, Mass. | 27 | 22 | 4 | 1 | - | - | 1 | | Savannah, Ga. | 38 | 21 | 7 | 5 | 1 | 4 | 1 | |
| New Haven, Conn. | 35 | 22 | 3 | 6 | 2 | 2 | 3 | | St. Petersburg, Fla. | 43 | 31 | 4 | 4 | - | - | - | |
| Providence, R.I. | 47 | 33 | 9 | 3 | 2 | - | - | | Tampa, Fla. | 137 | 91 | 23 | 20 | - | 2 | 21 | |
| Somerville, Mass. | 2 | 1 | 1 | - | - | - | - | | Washington, D.C. | 102 | 56 | 21 | 15 | 4 | 5 | 4 | |
| Springfield, Mass. | 47 | 31 | 10 | 2 | 2 | 2 | 5 | | Wilmington, Del. | 8 | 5 | 2 | 1 | - | - | - | |
| Waterbury, Conn. | 35 | 26 | 6 | 3 | - | - | 2 | | E.S. CENTRAL | 737 | 458 | 171 | 63 | 21 | 24 | 38 | |
| Worcester, Mass. | 61 | 44 | 12 | 1 | 1 | 3 | 10 | | Birmingham, Ala. | 133 | 72 | 38 | 12 | 7 | 4 | 3 | |
| MID. ATLANTIC | 1,994 | 1,285 | 398 | 212 | 69 | 49 | 72 | | Chattanooga, Tenn. | 64 | 42 | 15 | 5 | 1 | 1 | 1 | |
| Albany, N.Y. | 43 | 28 | 8 | 2 | 2 | 3 | 7 | | Knoxville, Tenn. | 94 | 66 | 19 | 7 | 2 | - | 5 | |
| Allentown, Pa. | 17 | 10 | 6 | 1 | - | - | - | | Lexington, Ky. | 64 | 39 | 14 | 5 | 3 | 3 | 3 | |
| Buffalo, N.Y. | 101 | 73 | 20 | 4 | 2 | 2 | 3 | | Memphis, Tenn. | 180 | 120 | 33 | 15 | 4 | 8 | 20 | |
| Camden, N.J. | 38 | 21 | 7 | 3 | 4 | 3 | 1 | | Mobile, Ala. | 42 | 23 | 10 | 5 | 2 | 2 | - | |
| Elizabeth, N.J. | 18 | 14 | 1 | 3 | - | - | - | | Montgomery, Ala. | 47 | 32 | 10 | 4 | - | - | 1 | |
| Erie, Pa. | 38 | 27 | 7 | 2 | - | 2 | 1 | | Nashville, Tenn. | 113 | 64 | 32 | 10 | 2 | 5 | 7 | |
| Jersey City, N.J. | 39 | 25 | 5 | 8 | - | 1 | 1 | | W.S. CENTRAL | 1,316 | 831 | 251 | 152 | 50 | 32 | 84 | |
| New York City, N.Y. | 1,045 | 641 | 214 | 132 | 40 | 18 | 29 | | Austin, Tex. | 64 | 38 | 13 | 10 | - | 3 | 1 | |
| Newark, N.J. | 46 | 21 | 9 | 10 | 2 | 4 | 3 | | Baton Rouge, La. | 30 | 25 | 4 | 1 | - | - | 1 | |
| Paterson, N.J. | 21 | 13 | 2 | 4 | - | 2 | - | | Corpus Christi, Tex. | 40 | 27 | 5 | 5 | 2 | 1 | 2 | |
| Philadelphia, Pa. | 225 | 133 | 54 | 22 | 7 | 8 | 15 | | Dallas, Tex. | 186 | 110 | 42 | 25 | 4 | 5 | 5 | |
| Pittsburgh, Pa. | 77 | 41 | 20 | 6 | 5 | 5 | 3 | | El Paso, Tex. | 70 | 47 | 11 | 7 | 5 | - | 3 | |
| Reading, Pa. | 16 | 12 | 2 | 1 | - | - | - | | Ft. Worth, Tex. | 81 | 52 | 13 | 12 | 1 | 3 | 6 | |
| Rochester, N.Y. | 104 | 73 | 22 | 6 | 2 | 1 | 2 | | Houston, Tex. | 272 | 143 | 57 | 49 | 15 | 8 | 30 | |
| Schenectady, N.Y. | 28 | 23 | 4 | - | 1 | - | 2 | | Little Rock, Ark. | 62 | 41 | 11 | 5 | 3 | 3 | 2 | |
| Scranton, Pa. | 26 | 20 | 3 | 3 | - | - | - | | New Orleans, La. | 114 | 79 | 21 | 9 | 3 | 2 | - | |
| Syracuse, N.Y. | 47 | 37 | 8 | 1 | 1 | - | 2 | | San Antonio, Tex. | 207 | 135 | 37 | 20 | 10 | 5 | 16 | |
| Trenton, N.J. | 26 | 19 | 3 | 4 | - | - | 4 | | Shreveport, La. | 88 | 66 | 16 | 2 | 2 | 2 | 8 | |
| Utica, N.Y. | 15 | 13 | 1 | - | - | - | - | | Tulsa, Okla. | 102 | 68 | 21 | 7 | 5 | 1 | 9 | |
| Yonkers, N.Y. | 24 | 21 | 2 | - | 1 | - | 2 | | MOUNTAIN | 650 | 416 | 113 | 77 | 16 | 28 | 48 | |
| E.N. CENTRAL | 2,029 | 1,211 | 412 | 238 | 117 | 51 | 89 | | Albuquerque, N.M. | 81 | 52 | 12 | 15 | 2 | - | 2 | |
| Akron, Ohio | 43 | 27 | 11 | 4 | 1 | - | - | | Colo. Springs, Colo. | 39 | 24 | 6 | 3 | 4 | 2 | 6 | |
| Canton, Ohio | 30 | 21 | 4 | 3 | 2 | - | 3 | | Denver, Colo. | 111 | 62 | 22 | 15 | 3 | 9 | 12 | |
| Chicago, Ill. | 445 | 171 | 91 | 100 | 65 | 18 | 11 | | Las Vegas, Nev. | 90 | 53 | 20 | 14 | 1 | 2 | 6 | |
| Cincinnati, Ohio | 107 | 68 | 27 | 9 | 1 | 2 | 7 | | Ogden, Utah | 26 | 22 | 3 | 1 | - | - | 3 | |
| Cleveland, Ohio | 146 | 95 | 37 | 9 | 2 | 3 | 5 | | Phoenix, Ariz. | 128 | 82 | 20 | 15 | 3 | 8 | 15 | |
| Columbus, Ohio | 159 | 95 | 38 | 16 | 10 | - | 8 | | Pueblo, Colo. | 25 | 21 | 4 | - | - | - | - | |
| Dayton, Ohio | 107 | 77 | 20 | 8 | 1 | 1 | 4 | | Salt Lake City, Utah | 65 | 42 | 11 | 5 | 3 | 4 | - | |
| Detroit, Mich. | 213 | 114 | 41 | 32 | 14 | 12 | 6 | | Tucson, Ariz. | 85 | 58 | 15 | 9 | - | 3 | 4 | |
| Evanston, Ind. | 55 | 41 | 8 | 5 | 1 | - | 3 | | PACIFIC | 1,997 | 1,254 | 402 | 234 | 66 | 33 | 123 | |
| Fort Wayne, Ind. | 58 | 46 | 8 | 2 | 1 | 1 | 5 | | Berkeley, Calif. | 24 | 15 | 5 | 3 | 1 | - | 3 | |
| Gary, Ind. | 23 | 10 | 4 | 6 | 1 | 2 | 1 | | Fresno, Calif. | 85 | 54 | 15 | 8 | 4 | 4 | 9 | |
| Grand Rapids, Mich. | 64 | 40 | 17 | 3 | 2 | 2 | 9 | | Glendale, Calif. | 36 | 30 | 3 | 2 | 1 | - | 3 | |
| Indianapolis, Ind. | 160 | 111 | 27 | 16 | 2 | 4 | 7 | | Honolulu, Hawaii | 73 | 48 | 16 | 7 | 1 | 1 | 8 | |
| Madison, Wis. | 34 | 19 | 11 | 3 | - | 1 | 2 | | Long Beach, Calif. | U | U | U | U | U | U | U | |
| Milwaukee, Wis. | 122 | 88 | 25 | 4 | 5 | - | 8 | | Los Angeles, Calif. | 681 | 414 | 137 | 91 | 29 | 5 | 26 | |
| Peoria, Ill. | 39 | 27 | 7 | 1 | 2 | 2 | 3 | | Pasadena, Calif. | 36 | 20 | 6 | 4 | 2 | 2 | 3 | |
| Rockford, Ill. | 36 | 25 | 8 | 2 | 1 | - | - | | Portland, Ore. | 130 | 80 | 20 | 11 | 5 | 4 | 2 | |
| South Bend, Ind. | 33 | 23 | 3 | 3 | - | - | - | | Sacramento, Calif. | 160 | 92 | 50 | 12 | 2 | 2 | 20 | |
| Toledo, Ohio | 99 | 67 | 18 | 10 | 2 | 2 | 5 | | San Diego, Calif. | 156 | 91 | 27 | 26 | 6 | 5 | 15 | |
| Youngstown, Ohio | 56 | 46 | 6 | 2 | 1 | 1 | 1 | | San Francisco, Calif. | 144 | 79 | 35 | 28 | 1 | 1 | 4 | |
| W.N. CENTRAL | 692 | 499 | 105 | 83 | 18 | 17 | 38 | | San Jose, Calif. | 175 | 118 | 30 | 18 | 6 | 3 | 15 | |
| Des Moines, Iowa | 55 | 38 | 7 | 7 | 2 | 1 | 2 | | Santa Cruz, Calif. | 24 | 22 | 2 | - | - | - | 1 | |
| Duluth, Minn. | 16 | 12 | 2 | - | 1 | 1 | 1 | | Seattle, Wash. | 152 | 100 | 27 | 16 | 6 | 3 | 2 | |
| Kansas City, Kans. | 25 | 18 | 3 | 4 | - | - | 1 | | Spokane, Wash. | 46 | 32 | 11 | 1 | 1 | 1 | 9 | |
| Kansas City, Mo. | 103 | 79 | 16 | 7 | - | 1 | 6 | | Tacoma, Wash. | 75 | 49 | 16 | 7 | - | - | 3 | |
| Lincoln, Nebr. | 25 | 18 | 3 | 3 | 1 | - | 3 | | TOTAL | 11,138† | 7,023 | 2,201 | 1,215 | 408 | 280 | 595 | |
| Minneapolis, Minn. | 170 | 121 | 27 | 10 | 8 | 4 | 13 | | | | | | | | | | |
| Omaha, Nebr. | 62 | 50 | 9 | 3 | - | - | 4 | | | | | | | | | | |
| St. Louis, Mo. | 128 | 78 | 21 | 14 | 6 | 9 | 2 | | | | | | | | | | |
| St. Paul, Minn. | 58 | 49 | 6 | 2 | - | 1 | 4 | | | | | | | | | | |
| Wichita, Kans. | 50 | 36 | 11 | 3 | - | - | 2 | | | | | | | | | | |

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

†Pneumonia and influenza.

‡Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

§Total includes unknown ages.

U: Unavailable

Surgical Sterilization — Continued

Among women who had been sterilized, 78% reported never using a condom currently compared with 46% of nonsterilized women, while 3% of sterilized and 14% of nonsterilized women reported always using condoms (Table 2). This association persisted when the analysis included stratification by age group (odds ratio = 0.30; 95% confidence interval = 0.20–0.47) (Table 2).

Reported by: JS Santelli, MD, LG Burwell, PhD, C Rozsenich, MHS, Baltimore City Health Dept; M Augustyn, PhD, DD Celentano, ScD, JE Rolf, PhD, R Wallach, B Beverly, MS, Johns Hopkins School of Hygiene and Public Health. Div of Sexually Transmitted Diseases and HIV Prevention, National Center for Prevention Svcs, CDC.

Editorial Note: Failure to use condoms during intercourse with partners at risk for STDs, including HIV infection, increases the risk for acquiring STDs. The findings in Baltimore are consistent with a previous study of surgical sterilization among women who were surveyed while enrolled in drug-treatment clinics in Philadelphia and underscore the need for educating women who have been surgically sterilized and others about the importance of condom use as a means for preventing STDs and HIV infection (2).

Surgical sterilization is more common among women who are older and who reside in low socioeconomic, inner-city, and minority communities (1). In these communities, women have been disproportionately affected by the HIV epidemic (3).

Women who plan surgical sterilization should be offered counseling before and after sterilization regarding their need for continued barrier protection; unless women, including those who have been sterilized, are involved in mutually monogamous relationships with uninfected partners who have no risk behaviors (e.g., injecting-drug use), condoms should be used during sexual intercourse. In addition, public health messages addressing the risks for HIV, STDs, cervical cancer, and other reproductive health concerns should include women who are surgically sterilized as well as those who are not.

The Baltimore City Health Department is using these findings to develop outreach strategies to increase condom use and to prevent HIV infection among all reproductive-aged women.

References

1. Mosher WD. Contraceptive practice in the United States, 1982–1988. *Fam Plann Perspect* 1990;22:198–205.
2. CDC. HIV-risk behaviors of sterilized and nonsterilized women in drug-treatment programs—Philadelphia, 1989–1991. *MMWR* 1992;41:149–52.
3. Chu SY, Buehler JW, Berkelman RL. Impact of the human immunodeficiency virus epidemic on mortality in women of reproductive age, United States. *JAMA* 1990;264:225–9.

*Epidemiologic Notes and Reports***Patient Exposures to HIV During Nuclear Medicine Procedures**

Although the potential for transmission of bloodborne pathogens to patients through transfusion of contaminated blood is well known, it is less widely recognized that such transmission can also occur during medical procedures involving withdrawal and reinjection of blood or blood products (e.g., nuclear medicine procedures). Since 1989, three patients (two in hospitals in the United States and one in the Netherlands) undergoing nuclear medicine procedures have been reported to have inadvertently received intravenous injections of blood or other material from patients

HIV Exposure — Continued

infected with human immunodeficiency virus (HIV). Two of these patients are known to have become infected with HIV during these procedures; HIV test results are not available for the third patient. This report summarizes these three incidents and provides recommendations for preventive measures.*

In the first incident, a patient was inadvertently injected intravenously with an estimated 100–200 μ L of fresh whole blood from an HIV-infected patient after a used syringe containing the blood was mistaken for another syringe containing red blood cells that had been treated (i.e., labeled) with a radioactive isotope (1). The second incident involved the inadvertent injection of a patient with white blood cells from an HIV-infected patient; the cells had been labeled with a radioactive isotope and were injected in the wrong patient when hospital personnel failed to correctly match the identification number of the recipient with that of the specimen of white blood cells (2,3). In both incidents, the recipient patient developed HIV infection despite prompt administration of zidovudine postexposure.

The third incident involved the inadvertent reuse of a syringe that had been used during a diagnostic procedure on an HIV-infected patient, resulting in injection of residual material into a second patient. Follow-up HIV test results from the recipient patient are not available (3).

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Editorial Note: Nuclear medicine procedures most often involve the intravenous injection, inhalation, or oral ingestion of radioactive materials (i.e., radiopharmaceuticals or radiotracers) for diagnostic or therapeutic purposes. In the United States, approximately 7–10 million such procedures are performed annually in radiology, nuclear medicine, and cardiology departments and clinics. A small subset of these procedures involves withdrawing and then reinjecting a patient's blood after certain cells or elements (i.e., red blood cells, white blood cells, or platelets) are labeled with a radioactive isotope. The two errors in administration known to have led to HIV infection in patients described in this report involved these procedures.

All three instances of errors in administration of radiotracers to patients undergoing nuclear medicine procedures were preventable because they resulted from errors in the identification of the patient and/or materials to be injected. Two of the incidents also involved improper handling and disposal of used syringes.

Administration errors in nuclear medicine procedures are relatively rare. During 1981–1990, an estimated 38 million nuclear medicine procedures were performed in the 21 states where nuclear medicine is regulated by the U.S. Nuclear Regulatory Commission (NRC); the facilities in these states represent approximately 40% of those performing nuclear medicine procedures in the United States. During this period, 4164 errors (defined by the NRC as misadministrations [4]) were reported to the NRC (4), representing an overall error rate of approximately 1 per 10,000 diagnostic procedures performed. Most of these reported misadministrations involved an incorrect dosage or radiopharmaceutical and/or errors in patient identification.

*Single copies of this report will be available free until August 7, 1993, from the CDC National AIDS Clearinghouse, P.O. Box 6003, Rockville, MD 20849-6003.

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Institutions or clinics in which nuclear medicine procedures are performed should assess policies and procedures to assure routine adherence to the following recommendations:

- All health-care providers, including those who perform nuclear medicine procedures, should receive proper training and routine in-service education on proper infection-control procedures (5).
- Written infection-control policies and procedures specific for nuclear medicine should be promulgated, made accessible, and disseminated in departments where nuclear medicine procedures are performed. These policies should outline procedures to follow in the event of a potential emergency (e.g., an administration error).
- All doses and syringes should be examined for identification and radioassayed (i.e., radiation level checked) before injection (6).
- All syringes should be labeled with appropriate identifying information, including the patient's name and the pharmaceutical (6); a unique identification number should also be used.
- Consideration should be given to implementing a system to be used when administering biologic products (e.g., labeled cells) that is similar to the system used for administering blood. Such a system requires that two persons be present to cross-check all labeling of product to be injected, the prescription, and patient identification.
- Contaminated and used syringes should be disposed of safely and appropriately. Disposal containers for syringes should be located as close as practical to the location of syringe use (6,7).
- All procedures should be documented; documentation should include, at a minimum, the date, name and amount of radiopharmaceutical, and route of administration (6). Ideally, the name or identifying information of the person administering the dose and the exact time of administration should be recorded either in the patient or departmental record.
- An administration error (e.g., administration involving the wrong patient or radiopharmaceutical) should be immediately reported to supervisory personnel and/or the physician in charge. Recommendations for the management of persons after a blood exposure in a health-care setting should be followed (7-9). All administration errors and narrowly avoided errors in administration should be carefully evaluated to determine whether additional precautions are necessary to prevent similar potential administration errors.

Careful adherence to these recommendations should minimize the risk of patient or health-care worker exposure to bloodborne pathogens during nuclear medicine procedures.

Misadministrations, as defined by the NRC or by the equivalent state agency in states that have an agreement with the NRC to carry out similar functions, should be reported to the appropriate agency as required by law. In addition, to develop and evaluate additional measures for preventing bloodborne pathogen transmission in nuclear medicine departments and other health-care settings, CDC requests that incidents involving possible transmission of bloodborne pathogens to patients in a health-care setting be reported through local and state health departments to CDC's

HIV Exposure — Continued

HIV Infections Branch, Hospital Infections Program, (telephone [404] 639-1547) or Hepatitis Branch, Division of Viral and Rickettsial Diseases (telephone [404] 639-3048).

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Update: CD4+ T-Lymphocytopenia in Persons Without Evident HIV Infection — United States

On July 31, 1992, CDC reported five cases of CD4+ T-lymphocytopenia in persons without evident human immunodeficiency virus (HIV) infection in the United States (1). As of August 5, 1992, CDC has received reports of nine additional persons with similar clinical presentations. All persons who have been reported to CDC meet the three criteria for CD4+ T-lymphocytopenia without evident HIV infection.* Another 21 persons suspected to have this condition have been described (1), 10 of whom reside in the United States. This report summarizes the 14 cases reported to CDC and provides information on the national surveillance system established to determine the prevalence and distribution of this condition.†

The 14 persons reported to CDC resided in 10 states, and their CD4+ T-lymphocytopenia was first documented during 1985–1992. These persons ranged in age from 31 to 70 years (median: 48 years); eight (57%) were male. Twelve persons (86%) were white, one (7%) black, and one (7%) Asian.

Information about risk factors for HIV infection was available for 13 persons, of whom four (31%) had established risk factors: three persons had received blood transfusions, and one person reported male homosexual contact. Acquired immunodeficiency syndrome (AIDS)-defining illnesses were diagnosed in eight (57%) of the 14 persons (2); six had other illnesses. One person died from an AIDS-defining illness; the other 13 are alive.

*Low CD4+ T-cell levels (documented absolute CD4+ T-cell level <300 cells/μL OR <20% on more than one determination); negative laboratory evidence of HIV infection (includes HIV serology and, if performed, HIV p24 antigen, polymerase chain reaction, and viral culture); and no defined immunodeficiency or therapy associated with depressed CD4+ T-cell levels.

†Single copies of this report will be available free until August 7, 1993, from the CDC National AIDS Clearinghouse, P.O. Box 6003, Rockville, MD 20849-6003.

CD4+ T-Lymphocytopenia — Continued

The lowest recorded CD4+ T-cell levels were 17–200 cells/ μ L (median: 85 cells/ μ L). In addition to testing for antibody to HIV, supplemental tests for HIV infection were performed for seven of the 14 persons and were negative. These supplemental tests included polymerase chain reaction for HIV DNA sequences (five persons), coculture of peripheral blood monocytes (three), and HIV p24 antigen assay (six).

The 10 U.S. cases previously described (3–5) are under investigation. A summary of information obtained to date indicates that eight of the 10 persons were male. Risk factors for HIV infection included male homosexual contact (six) and receipt of blood transfusions (one); three had no reported risk factors. Three persons had AIDS-defining illnesses, three had other illnesses, and four were asymptomatic. Of nine persons for whom vital status was known, two died from AIDS-defining illnesses. All 10 persons had at least one supplemental test for HIV infection; all of these tests were negative. All six persons with documented CD4+ T-cell levels had <300 cells/ μ L.

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Editorial Note: HIV-negative persons with apparent CD4+ T-lymphocytopenia are under epidemiologic and laboratory investigation by CDC and the National Institutes of Health. The cause of this condition remains unknown; these cases may represent a heterogeneous group of disorders.

In collaboration with state and local health departments, CDC has developed a standardized national surveillance system for collecting and reporting information on HIV seronegative persons with CD4+ T-lymphocyte depletion. Health-care providers are requested to report such cases to CDC through the AIDS surveillance section of their local or state health departments. Additional information on case reporting is available from CDC (telephone [404] 639-2981). Investigators in charge of Public Health Service-sponsored clinical trials and epidemiologic cohort studies, members of the Infectious Disease Society of America, the National Hemophilia Foundation, laboratories participating in CDC's Model Performance Evaluation Program, and physicians/institutions who report persons with HIV infection/AIDS are being contacted directly to facilitate reporting of cases to this surveillance system.

A scientific meeting will be held on August 14, 1992, at CDC to review the findings from these investigations. Additional information about the meeting and registration is available from PACE Enterprises; telephone (404) 633-8610.

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